SEQUENCE LISTING

<110> Jing, Shuqian

<120> Transforming Growth Factor-Beta-Related Molecules and Uses Thereof

<130> 00-659-A

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<150> 60/253,476
<151> 2000-11-28

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<170> PatentIn Ver. 2.0

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Met Val Leu Pro Ser Tyr Ser Lys Lys Pro Leu
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atc tct aat gtg gag cag ctg atc ctg ggg atc ccg ggc cag aat cgc 160
Ile Ser Asn Val Glu Gln Leu Ile Leu Gly Ile Pro Gly Gln Asn Arg
15 20 25

cgg gag ata ggc cat ggc cag gat atc ttt cca gca gag aag ctc tgc 208
Arg Glu Ile Gly His Gly Gln Asp Ile Phe Pro Ala Glu Lys Leu Cys
30 35 40

cat ctg cag gat cgc aag gtg aac ctt cac aga gct gcc tgg ggc gag 256
His Leu Gln Asp Arg Lys Val Asn Leu His Arg Ala Ala Trp Gly Glu
45 50 55

tgt att gtt gca ccc aag act ctc agc ttc tct tac tgt cag ggg acc 304
Cys Ile Val Ala Pro Lys Thr Leu Ser Phe Ser Tyr Cys Gln Gly Thr
60 65 70 75

tgc ccg gcc ctc aac agt gag ctc cgt cat tcc agc ttt gag tgc tat 352
Cys Pro Ala Leu Asn Ser Glu Leu Arg His Ser Ser Phe Glu Cys Tyr
80 85 90

aag agg gca gta cct acc tgt ccc tgg ctc ttc cag acc tgc cgt ccc 400
Lys Arg Ala Val Pro Thr Cys Pro Trp Leu Phe Gln Thr Cys Arg Pro

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acc atg gtc aga ctc ttc tcc ctg atg gtc cag gat gac gaa cac aag   448
Thr Met Val Arg Leu Phe Ser Leu Met Val Gln Asp Asp Glu His Lys
        110                 115                 120

atg agt gtg cac tat gtg aac act tcc ttg gtg gag aag tgt ggc tgc   496
Met Ser Val His Tyr Val Asn Thr Ser Leu Val Glu Lys Cys Gly Cys
    125                 130                 135

tct tga gataccccaa agcctcctac tggcctcagg gccacctaag tctcaggact    552
Ser
140

ttagtagggg gtgggattac ttttcatagc aagtagagct ctttgaaggg aggtgggatt 612

tggtttgttt ctcaaagcac agcaagaagg ttggcattat ggcagtaaca aat        665


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Gly Gln Asp Ile Phe Pro Ala Glu Lys Leu Cys His Leu Gln Asp Arg
         35                  40                  45

Lys Val Asn Leu His Arg Ala Ala Trp Gly Glu Cys Ile Val Ala Pro
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Lys Thr Leu Ser Phe Ser Tyr Cys Gln Gly Thr Cys Pro Ala Leu Asn
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Ser Glu Leu Arg His Ser Ser Phe Glu Cys Tyr Lys Arg Ala Val Pro
                 85                  90                  95

Thr Cys Pro Trp Leu Phe Gln Thr Cys Arg Pro Thr Met Val Arg Leu
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Phe Ser Leu Met Val Gln Asp Asp Glu His Lys Met Ser Val His Tyr
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Val Asn Thr Ser Leu Val Glu Lys Cys Gly Cys Ser
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Met Arg Phe Phe Ser Ala Arg Gln His Gly Phe Thr Leu Ile Phe Lys
  1               5                  10                  15

aag aca aag att cca gcc act gat gtc gct gat gcc agc ctg aat gaa   156
Lys Thr Lys Ile Pro Ala Thr Asp Val Ala Asp Ala Ser Leu Asn Glu
             20                  25                  30

tgt tcc agt acc gaa agg aaa caa gac gta gtg ttg ctg ttc gtg acc   204
Cys Ser Ser Thr Glu Arg Lys Gln Asp Val Val Leu Leu Phe Val Thr
         35                  40                  45

ttg tcc cac aca cag cca cct ctg ttt cac ctg cct tat gtc cag aaa   252
Leu Ser His Thr Gln Pro Pro Leu Phe His Leu Pro Tyr Val Gln Lys
     50                  55                  60

ccc tta atc tct aat gtg gag cag ctg atc ctg ggg atc ccg ggc cag   300
Pro Leu Ile Ser Asn Val Glu Gln Leu Ile Leu Gly Ile Pro Gly Gln
 65                  70                  75                  80

aat cgc cgg gag ata ggc cat ggc cag gat atc ttt cca gca gag aag   348
Asn Arg Arg Glu Ile Gly His Gly Gln Asp Ile Phe Pro Ala Glu Lys
                 85                  90                  95

ctc tgc cat ctg cag gat cgc aag gtg aac ctt cac aga gct gcc tgg   396
Leu Cys His Leu Gln Asp Arg Lys Val Asn Leu His Arg Ala Ala Trp
            100                 105                 110

ggc gag tgt att gtt gca ccc aag act ctc agc ttc tct tac tgt cag   444
Gly Glu Cys Ile Val Ala Pro Lys Thr Leu Ser Phe Ser Tyr Cys Gln
        115                 120                 125

ggg acc tgc ccg gcc ctc aac agt gag ctc cgt cat tcc agc ttt gag   492
Gly Thr Cys Pro Ala Leu Asn Ser Glu Leu Arg His Ser Ser Phe Glu
    130                 135                 140

tgc tat aag agg gca gta cct acc tgt ccc tgg ctc ttc cag acc tgc   540
Cys Tyr Lys Arg Ala Val Pro Thr Cys Pro Trp Leu Phe Gln Thr Cys
145                 150                 155                 160

cgt ccc acc atg gtc aga ctc ttc tcc ctg atg gtc cag gat gac gaa   588
Arg Pro Thr Met Val Arg Leu Phe Ser Leu Met Val Gln Asp Asp Glu
                165                 170                 175

cac aag atg agt gtg cac tat gtg aac act tcc ttg gtg gag aag tgt   636
His Lys Met Ser Val His Tyr Val Asn Thr Ser Leu Val Glu Lys Cys
            180                 185                 190

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Gly Cys Ser
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tc 810

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20 25 30

Cys Ser Ser Thr Glu Arg Lys Gln Asp Val Val Leu Leu Phe Val Thr
35 40 45

Leu Ser His Thr Gln Pro Pro Leu Phe His Leu Pro Tyr Val Gln Lys
50 55 60

Pro Leu Ile Ser Asn Val Glu Gln Leu Ile Leu Gly Ile Pro Gly Gln
65 70 75 80

Asn Arg Arg Glu Ile Gly His Gly Gln Asp Ile Phe Pro Ala Glu Lys
85 90 95

Leu Cys His Leu Gln Asp Arg Lys Val Asn Leu His Arg Ala Ala Trp
100 105 110

Gly Glu Cys Ile Val Ala Pro Lys Thr Leu Ser Phe Ser Tyr Cys Gln
115 120 125

Gly Thr Cys Pro Ala Leu Asn Ser Glu Leu Arg His Ser Ser Phe Glu
130 135 140

Cys Tyr Lys Arg Ala Val Pro Thr Cys Pro Trp Leu Phe Gln Thr Cys
145 150 155 160

Arg Pro Thr Met Val Arg Leu Phe Ser Leu Met Val Gln Asp Asp Glu
165 170 175

His Lys Met Ser Val His Tyr Val Asn Thr Ser Leu Val Glu Lys Cys
180 185 190

Gly Cys Ser
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<213> Mus musculus

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35 40 45

Gly Leu Phe Leu Glu Ile Leu Val Lys Glu Asp Arg Asp Ser Gly Val
50 55 60

Asn Phe Gln Pro Glu Asp Thr Cys Ala Arg Leu Arg Cys Ser Leu His
65 70 75 80

Ala Ser Leu Leu Val Val Thr Leu Asn Pro Asp Gln Cys His Pro Ser
85 90 95

Arg Lys Arg Arg Ala Ala Ile Pro Val Pro Lys Leu Ser Cys Lys Asn
100 105 110

Leu Cys His Arg His Gln Leu Phe Ile Asn Phe Arg Asp Leu Gly Trp
115 120 125

His Lys Trp Ile Ile Ala Pro Lys Gly Phe Met Ala Asn Tyr Cys His
130 135 140

Gly Glu Cys Pro Phe Ser Leu Thr Ile Ser Leu Asn Ser Ser Asn Tyr
145 150 155 160

Ala Phe Met Gln Ala Leu Met His Ala Val Asp Pro Glu Ile Pro Gln
165 170 175

Ala Val Cys Ile Pro Thr Lys Leu Ser Pro Ile Ser Met Leu Tyr Gln
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Asp Glu Cys Gly Cys Gly
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gatcagctac aagctgtggg gggttagaat agggcctaca gctgggcacg tggatattta 180

aagacagcga aggggaagcc ccgcttctga gagcaggtat gttggagggt ggctgtggga 240

gaagtggcag ctcctggctc attcctgggc tcttggctct gggtctttgg tgcatgtgtt 300

tgagctcagt agagacgttt gactgtccca acccgatgct gccttcccac ataaatgaga 360

ttttttttctg ccaggcaac atg gtt tta ccc tca tat tca aaa gtaagtagct 413

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cat ctg cag gat cgc aag gtg aac ctt cac aga gct gcc tgg ggc gag 1572

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<210> 8
<211> 84
<212> PRT
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20 25 30

Lys Leu Cys His Leu Gln Asp Arg Lys Val Asn Leu His Arg Ala Ala
35 40 45

Trp Gly Glu Cys Ile Val Ala Pro Lys Thr Leu Ser Phe Ser Tyr Cys
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Gln Gly Thr Cys Pro Ala Leu Asn Ser Glu Leu Arg His Ser Ser Phe
65 70 75 80

Glu Cys Tyr Lys

<210> 9
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<212> PRT
<213> Homo sapiens

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Ser Val His Tyr Val Asn Thr Ser Leu Val Glu Lys Cys Gly Cys Ser
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gaagtggcag ctcctggctc attcctgggc tcttggctct gggtctttgg tgcatgtgtt 300

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cgc aag gtg aac ctt cac aga gct gcc tgg ggc gag tgt att gtt gca 1584

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20 25 30

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35 40 45

Pro Leu Ile Ser Asn Val Glu Gln Leu Ile Leu Gly Ile Pro Gly Gln
50 55 60

Asn Arg Arg Glu Ile Gly His Gly Gln Asp Ile Phe Pro Ala Glu Lys
65 70 75 80

Leu Cys His Leu Gln Asp Arg Lys Val Asn Leu His Arg Ala Ala Trp
85 90 95

Gly Glu Cys Ile Val Ala Pro Lys Thr Leu Ser Phe Ser Tyr Cys Gln
100 105 110

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Cys Tyr Lys
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<210> 18
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<223> Description of Artificial Sequence: PCR primer
2445-29

<400> 18
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2450-21

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2445-30

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<210> 21
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
2445-31

<400> 21
gaagtgttca catagtgcac actc 24

<210> 22
<211> 23
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
2445-32

<400> 22
ctcatcttgt gttcgtcatc ctg 23

<210> 23
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
2445-22

<400> 23
gaccatcagg gagaagagtc tgac 24

<210> 24
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RACE primer
1916-83

<400> 24
ggctcgtatg ttgtgtggaa ttgtgagcg 29

<210> 25
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RACE primer
1916-80

<400> 25
tgcaaggcga ttaagttggg taacgccag 29

<210> 26
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RACE primer
1916-82

<400> 26
catgattacg ccaagctcta atacgactc 29

<210> 27
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RACE primer
1916-81

<400> 27
tcacgacgtt gtaaaacgac ggccagtg 28